

Patent Application of

William P. Carroll

For

TITLE: REVERSIBLE DOORJAMB SQUARE

CROSS-REFERENCE TO RELATED APPLICATIONS Not Applicable

FEDERALLY SPONSORED RESEARCH Not Applicable

SEQUENCE LISTING OR PROGRAM Not Applicable

BACKGROUND OF THE INVENTION---FIELD OF INVENTION

This invention relates to carpentry tools designed for installing doorjambs.

Patent Application of W. P. Carroll for
“Reversible Doorjamb Square” continued

The object of the invention is to assist the user, to install a doorjamb more accurately than using the age-old standard tool, (Bubble Spirit Level) or any other door jig described in prior art. More specifically the object of the Reversible Doorjamb Square is to produce a perfect 90-degree right angle guide for doorjambs effortlessly every time it is used regardless of whether or not the unit is plumb or level. Contrary to popular belief, a doorjamb can be out of plumb or level, and still fit squarely around the door! Unexpectedly, the Reversible Doorjamb Square can be used to install doorjambs more successfully without the use of bubble spirit levels that are subject to human error. The number one reason why so many people have difficulty installing doorjambs, is over emphasis on bubble spirit leveling devices, rather than squaring devices. The Reversible Doorjamb Square is designed around this concept and produces unexpected consistent results, because of its solid one-piece “90-degree”right angle square and Box Beam Jamb Tube design.

Many doorjambs are installed with difficulty because bubble spirit levels are prone to human error. Prior art describes a horizontal level connected to a vertical level, however a plumb jamb leg and a level head jamb will not always produce a perfectly square 90-degree angle due to aforementioned problems. The Reversible Doorjamb Square solves this problem.

The Reversible Door Jamb Square temporally secures the doorjamb plumb, straight,

Patent Application of W. P. Carroll for
“Reversible Doorjamb Square” continued

and square. The jamb is positioned in relation to the finish wall by using adjustable standoff discs.

The idea came to me while living on Nantucket Island. I witnessed many new doors that were installed incorrectly. I decided to design a devise that would assist novice and professionals, to install doors with efficiency and greater accuracy. My original design was complicated with a retractable sliding bracket that did not work. One day while holding my framing square in one hand and my level in the other, I noticed that the framing square almost fit into the end of the level!!! So I trimmed the framing square so that it would fit into the end of a six-foot level. I drilled holes in the level and screwed it to the doorjamb. I forced the framing square to the head jamb to form a perfect right angle.

DESCRIPTION OF RELATED ART

The related art describes many devices used to align doorjambs. US Pat. 6,442,853 Issued to Hale improperly describes two bubble spirit levels connected to form an L-shaped leveling device described as a square. The connection between the two extensions can move due to the length and leverage imposed on said connection. A deviation of any degree renders the description (right angle square) inaccurate. Furthermore the age-old problem still exists. Using this devise depends on reading bubble spirit levels prone to human error. US Patent 5,813,125 issued to Byrn describes a hands free square that can

Patent Application of W.P. Carroll

“Reversible Doorjamb Square” continued

be mounted to the work piece with screws. US Patent 4,910,876 issued to Channell describes a devise that attaches to an ordinary I-Beam Spirit Level to form a right angle. US Patent 2,636,282 issued to Kronquist describes a door frame setting gauge enabling workman to quickly and accurately install doorjambs. The inverted L shaped gauge is fastened to the jamb using finish nails. US Patent 2,973,584 issued to Snapp is another devise less cumbersome to store and transport. It will adjust for angles greater than 90-degrees. US Patent 2,748,493 issued to Williams describes a door jig mechanism for installing doorframes. This devise has two vertical extensions and two horizontal extensions. The diagonal section is used to keep the unit square. Web plates extend past the doorjamb. Holes are provided to allow screws to hold the web plates against the finish wall.

Improvements that are needed for a devise to work properly are described as follows: A solid one piece 90-degree right angle square that can be held in place along the vertical blade of said square, by a long extension Box Beam Jamb Tube. Calibration provided by setscrews. Solid 90-degree right angle squares that are reversible with different blade lengths to accommodate different door sizes. Cam levers, to provide quick connection of said right angles. Standoff discs located in the flange blocks and plates that will allow the devise to float between the rough opening.

Patent Application of W. P. Carroll

“Reversible Doorjamb Square” continued

None of the inventions or patents taken either singularly or in combination is seen to describe the invention claimed. Thus a solid one-piece reversible doorjamb square (with calibration and quick connections, with vertical box beam, flange plates and standoff discs) for solving the aforementioned problems are desirable.

SUMMARY OF THE INVENTION

The Reversible Doorjamb Square is a solid one-piece 90-degree right angle square that slides into a nylon lined box beam vertical extension tube. It is held in place between cam levers and calibration screws. The unit is used to temporally support and align the doorjamb in its desired location. The devise can position the doorjamb straight, plumb, square, and flush all at once while the installers hands are free to permanently fasten without umpteen decisions and unnecessary adjustments. Other doorjamb devises use bubble spirit levels as a method to produce a 90-degree right angle. Attempting to produce a perfect 90-degree right angle in this fashion is not impossible, although difficult because bubble levels are subject to human error and interpretation.

Patent Application of W. P. Carroll

“Reversible Doorjamb Square” continued

DISCRIPTION OF DRAWINGS

Figure 1. is a fully assembled perspective view of the Reversible Doorjamb Square according to the present invention. The right angle I-beam Square is inserted into the body of the box beam jamb tube and the flange blocks are mounted.

Figure 2. is a front perspective view of the cam lever, casting and calibration screws with pin.

Figure 2A. is a cross section view of the cam lever, casting, calibration screws and pin.

Figure 3. is a side perspective view of the flange block, right angle I-beam, standoff discs, with knob and adjustment screws, slotted T-bolt adjustment screw and knob according to the present invention.

Figure 4. is a cross section view illustrating the right angle I-beam inside the box beam jamb tube and nylon liner. The cam levers are open in the binding position. The calibration screws and cam levers and pins are also illustrated.

Patent application of W. P. Carroll

“Reversible Doorjamb Square” continued

DETAILED DESCRIPTION OF THE INVENTION

This invention is a special tool used for installing doorjambs perfectly straight, plumb, square and flush with the surface of the finish wall. The invention would be technically described as a right angle I-Beam **5** that slides into a rectangular metal (plastic lined **35**) box beam **10** that locks into place at 90-degrees using cam levers **15** and calibration screws. **40** Both the right angle I-beam **5** and the box beam **10** have plates **20** and flange blocks **30** equipped with adjustable stand-off discs **25** that allow positioning the doorjamb in the middle of the wall. Flange plates **20** and flange blocks **30** have adjustable knobs. **85** The flange blocks **30** have swivel tees **60** and slotted threaded rods **65** for quick fastening using the adjustment knob **90**

The right angle I-beam **5** is designed to be screwed to the head jamb thru holes **95** keeping it straight and more importantly at 90-degrees in relation to the hinged side of the doorjamb.

The right angle I-beam **5** shall be made from cast aluminum and will be pre-drilled to allow the use of removable flange blocks **30**. The right angle I-beam **5** is held in position by cam levers **15** and calibration screws **40** located within the casting. **45** The cam lever housing **45** will be cast and mounted flush to the edge of the box beam jamb tube. **10** The cam levers **15** will hold the right angle I-beam **5** against opposing calibration screws. **40**

Patent Application of W. P. Carroll

“Reversible Doorjamb Square” continued

The calibration screws **40** are located in the cam lever housing. **45**

The box beam jamb tube **10** is made from aluminum or metal and shall be machined on each edge. **50** Mounting holes and sleeves **55** will allow the screws to go thru the box beam **10** and into the doorjamb keeping it straight. Inside the box beam jamb tube **10** will be a nylon liner **35** to allow the right angle I-beam **5** to slide smoothly in and out of the box beam jamb tube. **10**

The box beam jamb tube **10** will have a bubble spirit level **70** to assist the user to mount the unit plumb.

The bottom of the box beam jamb tube will have a telescopic extension leg **75** and floor mounting plate. **80**